

"Version with markings to show changes"

Please amend claim 1 as follows:

1. (Third Amendment) Solid state substrate
adapted and configured for DNA immobilization, said solid
state substrate having a thermal conductivity ratio of at
least 0.1W/cmEK for amplifying and immobilizing DNA,

wherein the surface of the substrate is
modified by binding a chloride or a hydroxyl radical to
the substrate, and

wherein the surface of the solid state
substrate is roughened.

4. (Third Amendment) The substrate as claimed
in claim 31, wherein said substrate has a polar radical
at a terminal on the surface of the substrate.

13. (Twice Amended) A solid state substrate
having DNA immobilized thereon, wherein said substrate is
diamond or diamond like carbon and is chemically modified
by binding a chloride or a hydroxyl radial to the
substrate, and the substrate has a roughened surface.